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C. Grivas and Lawrence C. Weaver. *J. Pharm. Sci.*, **51**, 1140 (1962).—A study aimed at further elucidation of the relationship between hypotensive activity and structure among analogs of the protoveratrines is reported. A series of synthetic protoverine tetraesters, which differ from each other only in the nature of the acid residue affixed at C₁₅, have been prepared and subjected to preliminary pharmacological evaluation. The results indicate that alteration in the structure of the ester affixed at C₁₅ in analogs of the protoveratrines profoundly affects hypotensive potency.

Biochemistry

Syntheses of analgesics. XXVIII. Syntheses and pharmacological action of isoxazole derivatives. (1). Torizo Takahashi, Hajime Fujimura and Atsushi Asai. *Yakugaku Zasshi*, **82**, 474 (1962), in Japanese.—See, this Bulletin, **40**, 408 (1962).

Syntheses of analgesics. XXIX. Syntheses and pharmacological action of isoxazole derivatives. (2). Torizo Takahashi, Hajime Fujimura and Atsushi Asai. *Yakugaku Zasshi*, **82**, 481 (1962), in Japanese.—See, this Bulletin, **40**, 408 (1962).

Syntheses of analgesics. XXX. Indanamine derivatives. (1). Torizo Takahashi, Hajime Fujimura and Kentaro Okamura. *Yakugaku Zasshi*, **82**, 1597 (1962), in Japanese.—See, this Bulletin, **41**, 224 (1963).

Syntheses of 1-phenyl-2-thiobarbituric acid derivatives and their analgesic activity. Jutaro Okada, Hajime Fujimura and Yoshiko Ueda. *Yakugaku Zasshi*, **82**, 976 (1962), in Japanese.—See, this Bulletin, **40**, 407 (1962).

A pharmacological study of 6-hydroxy-4a, 10-trimethylene-1,2,3,4,4a,9,10,10a-octahydrophenanthridine. Hajime Fujimura, Norio Sugimoto and Goro Hayashi. *Japan. J. Pharmacol.*, **11**, 101 (1962).—See, this Bulletin, **40**, 194 (1962).

γ -L-Glutamyl-S-allyl-L-cysteine. A new γ -glutamyl peptide in garlic. Tomoji Suzuki, Michiyasu Sugii and Toshio Kakimoto. *Chem. Pharm. Bull.*, **10**, 345 (1962).—During the studies of the sulfur containing amino acid and the related compound in garlic, the present authors have isolated a new γ -glutamyl peptide in crystalline state and confirmed that the crystals are monoammonium salt of γ -L-glutamyl-S-allyl-L-cysteine. The new peptide showed R_f values of 0.61 (PhOH·0.08% NH₄OH=4:1) and 0.47 (BuOH·AcOH·H₂O=5:1:4). m.p. 187–188° (decomp.) [α]_D²⁰ -29.7 (in H₂O).

Metabolism of S-(2-carboxypropyl)-glutathione in rabbit. Tomoji Suzuki, Michiyasu Sugii and Toshio Kakimoto. *Chem. Pharm. Bull.*, **10**, 346 (1962).—A female rabbit was injected intravenously with S-(2-carboxypropyl)-glutathione (I) and the urine was analyzed. The result indicated that S-(2-carboxypropyl) cysteine and N-acetyl-S-(2-carboxypropyl) cysteine were formed from (I) *in vivo*.

Metabolic incorporation of L-valine-[¹⁴C] into S-(2-carboxypropyl)-glutathione and S-(2-carboxypropyl)-cysteine in garlic. Tomoji Suzuki, Michiyasu Sugii and

Toshio Kakimoto. *Chem. Pharm. Bull.*, **10**, 328 (1962).—It was proved that uniformly labeled L-valine- ^{14}C is incorporated into 2-carboxypropyl group of S-(2-carboxypropyl)-glutathione and S-(2-carboxypropyl)-cysteine in excised root of garlic. It was also found that leucine is formed from valine in a similar fashion as reported in various microorganisms. The biosynthetic pathway of these compounds from valine in garlic is discussed.